

In January, 1883, the first icebergs reported were observed in N. 47° 35', W. 45° 04' on the 30th; in 1882 the first icebergs were seen in N. 47° 30', W. 48° 35' on the 30th.

From the above, it will be seen that the ocean ice observed during January, 1887, was somewhat less, in quantity, than the average for corresponding months of the five preceding years. The iceberg reported was, however, in the same locality as those first observed in the preceding years, and serves to indicate a seasonable southern movement of icebergs and field-ice from the Labrador coast.

FOG.

The following shows the limits of fog-areas encountered on the north Atlantic Ocean during January, 1887, as reported by shipmasters:

1st.—The s. s. "British Queen," in N. 44° 6', W. 64° 0', had fog from 3.26 p. m. until midnight, with southerly winds and pressure below the normal. The s. s. "Palmyra," in N. 42° 50', W. 62° 20', had dense fog from 11 a. m. to 1.30 p. m., and again at midnight and until noon of the 2d, in N. 42° 33', W. 67° 55', with southeast veering to southwest winds and falling barometer. The s. s. "Prussian," in N. 44° 14', W. 53° 52', had fog, at intervals, from 1 p. m. until 2 a. m. of the 2d, in N. 43° 0', W. 58° 0', with moderate southwest winds and falling barometer.

7th.—The s. s. "Paxo," in N. 46° 18', W. 48° 8', had dense fog from 8 a. m. to noon, with fresh se. breeze and pressure below the normal.

15th.—The s. s. "Siberian," in N. 46° 0', W. 48° 10', had dense fog from 4 to 11 p. m., with southerly winds and falling barometer.

23d.—The s. s. "Borderer," in N. 44° 10', W. 63° 10', had dense fog from 7 a. m. to 3.30 p. m., with moderate wsw. breeze and pressure about normal.

As in the two preceding months, fog was encountered with southerly winds and barometric pressure below the normal, or to the eastward of areas of low pressure.

TEMPERATURE OF THE AIR.

[Expressed in degrees, Fahrenheit.]

The distribution of mean temperature over the United States and Canada for January, 1887, is exhibited on chart ii by the dotted isothermal lines; and in the table of miscellaneous data are given the monthly mean temperatures, with the departures from the normal, for the various stations of the Signal Service. On chart iv the departures from the normal are illustrated by lines connecting stations of normal or equal abnormal values.

During January, 1887, the temperature of the air has been above the normal on the Pacific slope and in the plateau regions and eastern slope of the Rocky mountains, except in eastern Montana. It has been normal or slightly above along the Atlantic coast from Eastport, Maine, to Hatteras, North Carolina. The departures in excess of the normal are small, except in the Rocky Mountain regions where they range from 4° 5 at Prescott, Arizona, to 8° 6 at Spokane Falls, Washington Territory. In Dakota, Minnesota, eastern Montana, the Missouri Valley, upper Mississippi valley, the Lake region, Saint Lawrence Valley, New England, the Ohio Valley, and the Southern States the temperature of the month has been below the normal. The deficiencies are especially large in Dakota, Minnesota, and the upper lake region, where the mean temperature of the month is about 7° 0 below the normal. In the south Atlantic and east Gulf states it is 2° 5 below the normal.

The following are some of the most marked departures from the normal temperature at Signal Service stations:

Above normal.		Below normal.	
Spokane Falls, Washington Territory...	8.6	Saint Paul, Minnesota.....	11.4
Las Animas, Colorado.....	8.1	Bismarck, Dakota.....	11.1
Boise City, Idaho.....	7.8	Fort Buford, Dakota.....	8.3
Fort Thomas, Arizona.....	7.4	Duluth, Minnesota.....	8.3
Helena, Montana.....	5.4	Marquette, Michigan.....	8.3
Winnemucca, Nevada.....	5.0	Omaha, Nebraska.....	7.8
Salt Lake City, Utah.....	4.6	Davenport, Iowa.....	7.7
Prescott, Arizona.....	4.5	Dubuque, Iowa.....	7.5

DEVIATIONS FROM NORMAL TEMPERATURES.

In the table below are given, for certain stations, as reported by voluntary observers, the normal temperatures of January for a series of years, the mean temperature for January, 1887, and the departures from the normal:

Station.	County.	Normal temperature for January.	Number of years.	Mean temperature for Jan., 1887.	Departure.
Arkansas.		0		0	0
Lead Hill.....	Boone.....	29.3	5	34.3	+ 5.0
California.					
Sacramento.....	Sacramento.....	46.5	21	44.3	- 2.2
Connecticut.					
Middletown.....	Middlesex.....	24.8	29	22.7	- 2.1
New Haven.....	New Haven.....	26.6	101	25.2	- 1.4
Thompson.....	Windham.....	21.4	30	21.8	+ 0.4
Dakota.					
Webster.....	Day.....	1.3	4	- 12.6	- 13.9
Illinois.					
Collinsville.....	Madison.....	25.1	8	23.9	- 1.2
Mattoon.....	Coles.....	24.8	7	24.0	- 0.8
Peoria.....	Peoria.....	24.1	31	21.0	- 3.1
Riley.....	McHenry.....	17.5	23	11.1	- 6.4
Sycamore.....	De Kalb.....	14.3	6	12.5	- 1.8
Indiana.					
Lafayette.....	Tippecanoe.....	22.8	8	20.1	- 2.7
Logansport.....	Cass.....	25.2	33	22.4	- 2.8
Vevay.....	Switzerland.....	31.4	21	30.3	- 1.1
Iowa.					
Creco.....	Howard.....	10.1	15	3.0	- 7.1
Monticello.....	Jones.....	14.8	37	8.9	- 5.9
Muscatine.....	Muscatine.....	18.7	49	12.5	- 6.2
Kansas.					
Independence.....	Montgomery.....	27.8	16	27.1	- 0.7
Wellington.....	Sumner.....	24.2	9	26.7	+ 2.5
Maine.					
Belfast.....	Waldo.....	19.0	28	17.5	- 1.5
Gardiner.....	Kennebec.....	17.8	51	15.8	- 2.0
Orono.....	Penobscot.....	15.4	19	14.0	- 1.4
Maryland.					
Cumberland.....	Alleghany.....	30.8	15	28.6	- 2.2
Fallston.....	Harford.....	29.7	16	28.6	- 1.1
Massachusetts.					
Amherst.....	Hampshire.....	22.3	50	19.4	- 2.9
Cambridge.....	Middlesex.....	24.9	65	22.8	- 2.1
Fitchburg.....	Worcester.....	22.3	30	20.4	- 1.9
New Bedford.....	Bristol.....	28.3	75	26.7	- 1.6
Somerset.....	Bristol.....	26.2	17	26.5	+ 0.3
Springfield.....	Hampden.....	24.4	20	22.2	- 2.2
Taunton.....	Bristol.....	26.1	16	26.1	0.0
Williamstown.....	Berkshire.....	21.5	33	20.0	- 1.5
Michigan.					
Thornville.....	Lapeer.....	23.2	12	19.2	- 4.0
Nevada.					
Carson City.....	Ormsby.....	32.7	8	36.5	+ 3.8
New Brunswick.					
Saint John.....	Saint John.....	18.0	27	17.6	- 0.4
New Hampshire.					
Concord.....	Merrimac.....	21.5	19	19.2	- 2.3
Hanover.....	Grafton.....	16.1	24	13.0	- 3.1
New Jersey.					
South Orange.....	Essex.....	28.2	17	28.7	+ 0.5
New York.					
North Volney.....	Oswego.....	21.9	19	19.0	- 2.9
Palermo.....	Oswego.....	20.3	34	17.0	- 3.3
Ohio.					
Wauseon.....	Fulton.....	22.7	17	19.3	- 3.4
Pennsylvania.					
Dyberry.....	Wayne.....	20.9	23	19.8	- 1.1
Grampian Hills.....	Clearfield.....	21.5	17	21.1	- 0.4
South Carolina.					
Stateburg.....	Sumter.....	43.8	6	42.4	- 1.4
Texas.					
New Utm.....	Austin.....	50.3	14	49.6	- 0.7
Vermont.					
Lunenburg.....	Essex.....	15.1	39	13.3	- 1.8
Newport.....	Orleans.....	14.4	12	11.3	- 3.1
Stratford.....	Orange.....	15.8	12	13.3	- 2.5
Virginia.					
Dale Enterprise.....	Rockingham.....	28.7	7	33.6	+ 4.9
Variety Mills.....	Nelson.....	34.1	10	32.9	- 1.2
West Virginia.					
Helvetia.....	Randolph.....	32.3	11	31.0	- 1.3
Parkersburg.....	Wood.....	35.5	8	31.0	- 4.5

* From the "Bulletin of the New England Meteorological Society."

The following notes on temperature are furnished by voluntary observers:

Dakota.—Webster, Day county: during the month the temperature has been below zero every day except the 15th; the daily mean has been below zero on twenty-four days.

Illinois.—Mattoon, Coles county: the highest temperature that has occurred in any January during the past seven years was 65° 0, in 1880; the lowest, -28° 0, in 1884; the highest mean temperature, 40° 0, occurred in 1880; the lowest mean, 19° 0, in 1881.

Riley, McHenry county: during the past twenty-three years the highest January mean temperature, 33° 4, occurred in 1875; the lowest mean, 5° 9, in 1880.

Indiana.—Vevay, Switzerland county: during the past twenty-one years the highest January temperature, 69° 0, occurred in 1866 and 1876; the lowest, -28° 0, in 1884.

Iowa.—Monticello, Jones county: the highest temperature that has occurred in any January during the past thirty-three years was 62° 0, in 1865; the lowest, —38° 0, in 1884; the highest mean temperature, 32° 9, occurred in 1880; the lowest mean, 3° 6, in 1876.

Kansas.—Wellington, Sumner county: the highest January mean temperature in the past nine years, 40° 4, occurred in 1880; the lowest, 17° 6, in 1886; the minimum temperature of the present month, —20° 0 on the 3d at 1 a. m., is lower than any previous reading in a record of the past nine years.

Maryland.—Cumberland, Alleghany county: table of temperature for January during the past fifteen years:

January.	Temperature.			January.	Temperature.		
	Highest.	Lowest.	Mean.		Highest.	Lowest.	Mean.
1872.....	46	9	30	1882.....	50	8	33
1874.....	67	6	36	1883.....	41	4	37
1875.....	45	—4	29	1884.....	54	—2	27
1876.....	65	15	38	1885.....	56	4	29
1877.....	55	—2	30	1886.....	56	—4	25
1878.....	48	—8	29	1887.....	60	—6	29
1879.....	51	—5	27	Average.....	53.9	1.4	30.9
1880.....	64	12	39				
1881.....	46	—8	25				

New York.—Palermo, Oswego county: the highest January mean temperature during the past thirty-four years, 29° 4, occurred in 1880; the lowest, 12° 8, in 1881.

North Volney, Oswego county: during the past nineteen years the coldest January occurred in 1881, mean temperature, 16° 1; the warmest in 1880, mean, 31° 8.

Ohio.—Wauseon, Fulton county: the highest January mean temperature in the past seventeen years, 37° 7, occurred in 1880; the lowest mean, 12° 2, in 1875; the January extremes in that time are 69° 5, in 1876, and —31° 7, in 1884.

Pennsylvania.—Grampian Hills, Clearfield county: the highest January mean temperature in the past seventeen years, 33° 5, occurred in 1876; the lowest, 16° 1, in 1867.

South Carolina.—Stateburg, Sumter county: the mean temperature of the seven days from January 2d to 8th, inclusive, is 27° 7; the highest temperature during January in the past six years, 73° 0, occurred on the 16th in 1882; the lowest, 6° 0, on the 12th in 1886.

Texas.—New Ulm, Austin county: during the past fourteen years the highest January mean temperature, 68° 7, occurred in 1880; the lowest mean, 43° 2, in 1881; the January extremes for that time are 84° 0, in 1880, and 7° 0, in 1886.

Vermont.—Strafford, Orange county: the highest mean temperature for January during the past twelve years, 24° 7, occurred in 1880; the lowest mean, 11° 0, in 1883.

Virginia.—Variety Mills, Nelson county: the highest mean temperature for January during the past ten years, 44° 9, occurred in 1880; the lowest mean, 28° 7, in 1886.

Dale Enterprise, Rockingham county: during the past seven years the warmest January occurred in 1880, mean temperature, 84° 7; the coldest in 1881, mean, 20° 7.

In the following table are given the mean temperatures for the several geographical districts, with the normals and departures, as deduced from Signal Service observations:

Average temperatures for January.

Districts.	Average for January, Signal-Service observations.		Comparison of Jan., 1887, with the average for several years.
	For several years.	For 1887.	
New England.....	29.6	28.5	—1.1
Middle Atlantic States.....	33.3	33.0	—0.3
South Atlantic States.....	46.9	43.9	—3.0
Florida Peninsula.....	59.8	55.6	—4.2
Eastern Gulf States.....	47.8	45.5	—2.3
Western Gulf States.....	45.1	46.1	+1.0
Rio Grande Valley.....	56.6	58.6	+2.0
Tennessee.....	38.8	38.8	0.0
Ohio Valley.....	31.2	29.4	—1.8
Lower Lake region.....	25.2	22.9	—2.3
Upper Lake region.....	18.0	12.8	—5.2
Extreme Northwest.....	0.4	—7.7	—8.1
Upper Mississippi Valley.....	22.2	17.1	—5.1
Missouri Valley.....	16.3	10.0	—6.3
Northern slope.....	13.5	14.9	+1.4
Middle slope.....	25.4	30.0	+4.6
Southern slope.....	39.0	41.8	+2.8
Southern plateau.....	40.4	43.5	+3.1
Middle plateau.....	29.2	34.0	+4.8
Northern plateau.....	25.7	33.9	+8.2
North Pacific coast region.....	39.2	42.3	+3.1
Middle Pacific coast region.....	45.7	49.7	+2.2
South Pacific coast region.....	53.5	55.1	+1.6

RANGES OF TEMPERATURE.

The monthly, and the greatest and least daily, ranges of temperature, are given in the table of miscellaneous meteorological data.

The following are some of the greatest and least monthly ranges at Signal Service stations:

Greatest.	Least.
Las Animas, Colorado	Tatooch Island, Washington Ter.....
Dodge City, Kansas.....	Fort Canby, Washington Ter.....
Bismarck, Dakota.....	Astoria, Oregon.....
Fort Buford, Dakota.....	Port Angeles, Washington Territory.....
Fort Supply, Indian Territory.....	Pyshet, Washington Territory.....
Denver, Colorado.....	Olympia, Washington Territory.....
Fort Yates, Dakota	Key West, Florida.....

Table of comparative maximum and minimum temperatures for January.

State or Territory.	Station.	For 1887.		Since establishment of station.			
		Max.	Min.	Max.	Year.	Min.	Year.
Alabama.....	Mobile.....	72.0	15.9	78.0	1882	11.0	1886
Do.....	Montgomery.....	74.0	12.9	78.5	1882	5.4	1886
Arizona.....	Prescott.....	62.8	11.2	71.0	1882	—17.0	1880
Do.....	Fort Apache.....	65.0	10.5	67.0	1881, 1882	9.5	1886
Arkansas.....	Fort Smith.....	72.7	4.0	73.5	1882	—12.0	1881
Do.....	Little Rock.....	72.2	7.0	78.0	1880	4.8	1886
California.....	San Francisco.....	72.9	41.5	69.0	1877	36.0	1876, 1883
Do.....	San Diego.....	74.0	38.0	78.0	1877	32.0	1880
Colorado.....	Denver.....	60.9	—17.6	67.0	1882	—29.0	1875
Do.....	Pike's Peak.....	19.0	—20.7	30.0	1879	—37.0	1883
Connecticut.....	New Haven.....	51.1	—5.4	63.0	1876	—14.0	1873
Do.....	New London.....	56.4	—0.1	65.0	1880	—14.0	1873
Dakota.....	Fort Buford.....	42.5	—45.2	47.0	1880	—48.2	1886
Do.....	Yankton.....	47.4	—29.1	67.0	1880	—32.0	1881
District of Columbia.....	Washington City.....	67.2	6.2	71.0	1874, 1876	—14.0	1881
Florida.....	Jacksonville.....	76.3	21.9	80.0	1875, 1876, 1877, 1879	15.3	1886
Do.....	Key West.....	78.8	50.2	90.0	1877	40.8	1886
Georgia.....	Atlanta.....	68.8	9.0	73.0	1879, 1882	—3.4	1886
Do.....	Savannah.....	70.7	16.0	80.0	1879	12.0	1886
Idaho.....	Boise City.....	55.2	15.7	61.5	1884	—7.3	1885
Illinois.....	Chicago.....	66.1	—1.1	70.0	1876, 1880	—16.0	1884
Do.....	Indianapolis.....	52.0	—15.3	61.0	1880	—20.0	1875
Indiana.....	Fort Mill.....	64.4	—11.8	69.0	1876	—25.0	1884
Indian Territory.....	Fort Sill.....	75.9	0.2	75.0	1880	9.0	1879
Iowa.....	Dubuque.....	41.5	—31.5	62.0	1874	—26.2	1883
Do.....	Des Moines.....	41.8	—24.5	63.0	1880	—30.4	1884
Kansas.....	Dodge City.....	72.9	—17.0	70.0	1876	—20.0	1883
Do.....	Leavenworth.....	60.2	—15.5	65.0	1876	—29.0	1873
Kentucky.....	Louisville.....	67.2	—4.7	71.0	1876	19.5	1884
Louisiana.....	New Orleans.....	78.0	21.4	78.0	1879	15.3	1886
Do.....	Shreveport.....	76.1	12.0	78.0	1876, 1880	1.3	1886
Maine.....	Eastport.....	50.3	—13.4	51.0	1874	—20.0	1874
Do.....	Portland.....	47.2	—14.7	58.0	1876	—12.4	1886
Maryland.....	Baltimore.....	65.3	7.3	71.0	1876	—6.0	1881
Massachusetts.....	Boston.....	55.9	—5.0	69.5	1876	—13.0	1882
Michigan.....	Marquette.....	37.2	—20.6	56.0	1880	—26.0	1881
Do.....	Grand Haven.....	48.1	—2.1	57.0	1880	—12.0	1873
Minnesota.....	Saint Vincent.....	22.8	—42.2	39.0	1885	—46.0	1885
Do.....	Saint Paul.....	31.5	—35.7	49.0	1879	—35.6	1885
Mississippi.....	Vicksburg.....	76.2	9.6	80.0	1879	3.1	1886
Missouri.....	Saint Louis.....	65.6	—9.6	72.0	1880	—21.5	1884
Montana.....	Fort Assiniboine.....	43.2	—35.0	46.1	1885, 1886	—49.3	1886
Do.....	Helena.....	47.9	—25.3	57.0	1885	—34.0	1883
Nebraska.....	North Platte.....	56.0	—21.4	70.0	1880	—27.0	1881
Do.....	Omaha.....	51.1	—21.9	62.0	1879, 1880	—32.0	1884
Nevada.....	Winnemucca.....	57.2	7.5	57.0	1878, 1886	—14.0	1879
New Hampshire.....	Mount Washington.....	36.8	—35.4	42.0	1874	—50.0	1885
New Jersey.....	Atlantic City.....	49.4	7.0	64.0	1880	—3.0	1875
New Mexico.....	Santa Fe.....	55.5	6.0	76.0	1879	—13.0	1883
New York.....	Buffalo.....	56.0	—1.7	65.5	1874	—13.5	1884
Do.....	New York City.....	62.6	6.0	64.0	1876, 1880	—6.0	1875
North Carolina.....	Charlotte.....	68.9	8.2	70.0	1879, 1880	—0.6	1886
Do.....	Wilmington.....	73.0	14.6	77.0	1879	9.0	1884
Ohio.....	Cincinnati.....	65.5	—5.2	69.0	1876	—12.4	1886
Do.....	Sandusky.....	62.4	—8.0	64.0	1880	—16.5	1879
Oregon.....	Portland.....	58.1	29.3	60.0	1886	3.0	1875
Do.....	Roseburg.....	58.1	23.2	66.0	1885	12.0	1883
Pennsylvania.....	Pittsburg.....	67.8	4.0	75.0	1874	—12.0	1875
Do.....	Philadelphia.....	65.6	8.1	67.0	1876	—5.0	1875
Rhode Island.....	Block Island.....	56.1	1.8	58.8	1885	—4.0	1882
South Carolina.....	Charleston.....	69.6	16.7	80.0	1879	10.5	1886
Tennessee.....	Knoxville.....	68.8	5.4	74.0	1876	—16.0	1884
Do.....	Memphis.....	72.2	4.3	73.0	1876, 1880	—8.0	1886
Texas.....	Brownsville.....	87.6	27.8	82.0	1880	18.0	1881
Do.....	Fort Elliott.....	73.4	—4.4	81.0	1880	—12.0	1883
Utah.....	Salt Lake City.....	51.5	11.9	54.2	1879	—20.0	1883
Virginia.....	Lynchburg.....	65.4	6.1	72.0	1876, 1879	—4.0	1877
Do.....	Norfolk.....	69.0	12.6	80.0	1871	8.0	1879
Washington Ter.....	Spokane Falls.....	51.2	9.3	50.9	1884	—14.0	1885
Do.....	Olympia.....	54.5	26.0	59.0	1885	9.0	1883
Wisconsin.....	La Crosse.....	41.0	—28.9	59.0	1874	—43.0	1873
Do.....	Milwaukee.....	42.3	—15.9	59.0	1871, 1874	—25.0	1875
Wyoming.....	Cheyenne.....	63.0	—15.9	63.0	1880	—38.0	1875

FROSTS.

Frosts occurred in the various districts on the following dates:
New England.—1st to 31st.

Middle Atlantic states.—1st to 31st.

South Atlantic states.—1st to 13th, 15th to 20th, 22d, 25th to 28th, 31st.

Florida Peninsula.—2d, 3d, 4th, 11th, 12th, 14th to 18th, 20th, 21st, 25th.

East Gulf states.—1st to 4th, 6th, 10th, 11th, 12th, 16th, 18th, 19th, 24th, 25th, 27th.

West Gulf states.—1st to 12th, 14th, 15th, 18th, 19th, 24th, 26th, 27th, 29th.

Rio Grande Valley.—Rio Grande City, Texas, 2d, 3d, 5th, 10th; Brownsville, 10th.

Tennessee.—1st to 12th, 14th, 15th, 17th, 18th, 19th, 23d, 24th, 26th, 27th, 29th, 30th, 31st.

Ohio Valley.—1st to 21st, 24th to 31st.

Lower lake region.—1st to 22d, 24th to 31st.

Upper lake region.—1st to 31st.

Extreme northwest.—1st to 31st.

Upper Mississippi valley.—1st to 31st.

Missouri Valley.—1st to 31st.

Northern slope.—1st to 31st.

Middle slope.—1st to 31st.

Southern slope.—1st to 12th, 15th to 29th.

Southern plateau.—1st to 31st.

Middle plateau.—1st to 31st.

Northern plateau.—1st to 31st.

North Pacific coast region.—1st to 11th, 15th, 16th, 17th, 19th, 20th, 23d to 28th, 30th, 31st.

Middle Pacific coast region.—1st, 3d, 4th, 5th, 7th to 11th, 16th, 17th, 22d to 31st.

South Pacific coast region.—7th, 9th to 12th, 15th, 21st, 23d to 30th.

ICE.

Ice formed on calm water in the southern districts of the country on the following dates:

Alabama.—Livingston, 3d.

Arizona.—Yuma, 10th, 11th, 12th; Maricopa, 12th.

California.—Sacramento, 9th, 10th, 11th, 17th, 26th, 28th, 29th; San Diego, 11th.

Florida.—Jacksonville, 2d, 3d, 4th, 19th; Sanford, 2d, 3d, 19th; Pensacola, 2d, 18th; Archer, 2d, 3d, 4th, 11th; Duke, 3d.

Georgia.—Quitman, 2d, 3d, 4th; Savannah, 11th, 19th.

Louisiana.—Shreveport, 1st, 2d, 5th, 9th, 10th, 12th.

North Carolina.—Smithville, 3d, 4th, 5th, 11th, 18th, 19th.

South Carolina.—Spartanburg, 1st to 4th, 10th, 18th; Stateburg, 2d to 12th, 18th, 19th, 20th, 27th; Charleston, 3d, 18th, 19th.

Texas.—San Antonio, 1st, 2d, 3d; Corsicana, 1st to 8th, 10th, 11th, 12th, 17th, 18th, 19th, 23d, 24th, 26th, 30th; Palestine, 5th; Rio Grande City, 10th.

PRECIPITATION.

[Expressed in inches and hundredths.]

The distribution of rainfall over the United States and Canada for January, 1887, as determined from the reports of about six hundred stations, is exhibited on chart iii, and in the table of miscellaneous data are given, for Signal Service stations, the total precipitation, with the departures from the normal. With the exception of the eastern half of Georgia and the southern half of South Carolina, the precipitation of the month is below the normal in all parts of the country lying south of the fortieth parallel; it is also deficient in northern Idaho, northern Montana, Nebraska, Iowa, and northern Michigan. The departures are quite large in the south Atlantic and Gulf states; in the latter district the deficiency averages over two inches; the deficiency is also large in the Ohio Valley and Tennessee, the departures averaging over one inch below the normal. The rainfall of the month in California is very small for the season; in the northern and central parts of the state it is only about one-fourth and in the southern part only one twenty-second of the normal; reports from various parts of the state indicate that the lack of rain is already beginning to injure the grain and other crops. In New England, Canada, the Lake region, Minnesota, Dakota, and in the northern

Pacific coast region the precipitation of the month is in excess of the normal; the departures are especially large along the coast of Washington Territory and Oregon, also in eastern Maine and the Canadian Maritime Provinces.

DEVIATIONS FROM AVERAGE PRECIPITATION.

The following table shows, for certain stations, as reported by voluntary observers, the average precipitation for the month of January for a series of years, the precipitation for January 1887, and the departures from the average:

Station.	County.	Average precipitation for Jan.	Number of years.	Precipitation for Jan., 1887.	Departure.
<i>Arkansas.</i>		<i>Inches.</i>		<i>Inches.</i>	<i>Inches.</i>
Lead Hill.....	Boone.....	2.60	5	1.33	- 1.27
<i>California.</i>					
Sacramento.....	Sacramento.....	4.18	21	1.07	- 3.11
<i>Connecticut.</i>					
Canton *.....	Hartford.....	3.60	25	5.87	+ 2.27
Hartford *.....	Hartford.....	3.96	15	5.92	+ 1.96
Middletown *.....	Middlesex.....	4.16	29	7.07	+ 2.91
New Haven *.....	New Haven.....	4.18	15	4.24	+ 0.06
Wallingford *.....	New Haven.....	4.38	29	5.71	+ 1.33
<i>Dakota.</i>					
Webster.....	Day.....	1.58	4	4.55	+ 2.97
<i>Illinois.</i>					
Collinsville.....	Madison.....	1.79	5	0.60	- 1.19
Mattoon.....	Coles.....	2.66	7	1.30	- 1.36
Peoria.....	Peoria.....	1.62	31	1.10	- 0.52
Riley.....	McHenry.....	1.82	25	3.59	+ 1.77
Sycamore.....	De Kalb.....	2.48	6	3.93	+ 1.45
<i>Indiana.</i>					
Lafayette.....	Tippecanoe.....	2.91	8	1.18	- 1.73
Logansport.....	Cass.....	1.71	33	2.85	+ 1.14
Vevay.....	Switzerland.....	4.11	21	4.18	+ 0.07
<i>Iowa.</i>					
Cresco.....	Howard.....	1.30	15	0.73	- 0.57
Monticello.....	Jones.....	1.65	34	2.39	+ 0.74
<i>Kansas.</i>					
Independence.....	Montgomery.....	1.40	15	0.79	- 0.61
Wellington.....	Sumner.....	0.71	9	0.48	- 0.23
<i>Louisiana.</i>					
Grand Coteau.....	Saint Landry.....	9.42	4	2.57	- 6.85
<i>Maine.</i>					
Gardiner *.....	Kennebec.....	3.47	49	7.32	+ 3.85
Orono *.....	Penobscot.....	3.90	19	7.56	+ 3.66
<i>Maryland.</i>					
Cumberland.....	Alleghany.....	2.09	15	0.30	- 1.79
Fallston.....	Harford.....	3.83	16	2.72	- 1.11
<i>Massachusetts.</i>					
Amherst *.....	Hampshire.....	3.31	52	4.83	+ 1.52
Cambridge *.....	Middlesex.....	4.13	46	7.04	+ 2.91
Chesnut Hill *.....	Middlesex.....	4.35	12	5.57	+ 1.22
Framingham *.....	Middlesex.....	4.16	13	5.20	+ 1.04
Lake Cochituate *.....	Middlesex.....	3.80	36	5.39	+ 1.59
Lynn *.....	Essex.....	3.98	13	6.20	+ 2.22
Mystic Lake *.....	Middlesex.....	4.14	12	5.22	+ 1.08
New Bedford *.....	Bristol.....	3.88	74	6.02	+ 2.14
Somerset.....	Bristol.....	4.20	17	6.08	+ 1.88
Springfield *.....	Hampden.....	3.42	40	4.85	+ 1.43
Waltham *.....	Middlesex.....	3.05	62	5.99	+ 2.94
Williamstown *.....	Berkshire.....	2.66	22	5.29	+ 2.63
<i>Nevada.</i>					
Carson City.....	Ormsby.....	2.01	8	1.01	- 1.00
<i>New Brunswick.</i>					
Saint John *.....	Saint John.....	4.87	27	10.95	+ 6.08
<i>New Hampshire.</i>					
Concord *.....	Merrimac.....	3.08	31	3.35	+ 0.27
Hanover *.....	Grafton.....	2.63	21	4.82	+ 2.19
<i>New Jersey.</i>					
South Orange.....	Essex.....	3.96	17	3.50	- 0.46
<i>New York.</i>					
Palermo.....	Oswego.....	3.31	34	5.39	+ 2.08
<i>Ohio.</i>					
Wauseon.....	Fulton.....	2.20	13	2.36	+ 0.16
<i>Pennsylvania.</i>					
Dyberry.....	Wayne.....	2.99	18	4.00	+ 1.01
Grampian Hills.....	Clearfield.....	3.66	17	2.57	- 1.09
<i>South Carolina.</i>					
Kirkwood.....	Kershaw.....	3.32	20	3.13	- 0.19
Stateburg.....	Sumter.....	3.98	6	3.50	- 0.48
<i>Texas.</i>					
New Ulm.....	Austin.....	4.13	14	1.09	- 3.04
<i>Vermont.</i>					
Lunenburg *.....	Essex.....	3.01	39	3.00	- 0.01
Newport *.....	Orleans.....	3.34	12	5.88	+ 2.54
Stratford.....	Orange.....	3.20	12	5.50	+ 2.30
<i>Virginia.</i>					
Dale Enterprise.....	Rockingham.....	3.01	7	2.42	- 0.59
Variety Mills.....	Nelson.....	4.14	8	2.16	- 1.98
<i>West Virginia.</i>					
Helvetia.....	Randolph.....	5.47	11	3.75	- 1.72

* From the "Bulletin of the New England Meteorological Society."

The following notes, in connection with this subject, are furnished by voluntary observers:

Kansas.—Wellington, Sumner county: the precipitation of the month was all in the form of snow, which fell to a depth of 5.5 inches. During the past nine years the largest monthly rainfall for January, 1.64, occurred in 1886; the lowest, 0.18, in 1881.